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A MATERIAL-SAVING HIGH-VOLTAGE SUPPLY UNIT FOR COUNTING TUBES

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SUPPLY UNIT

A MATERIAL-~~SAVING~~ HIGH-VOLTAGE APPARATUS

FOR COUNTING TUBES

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In order to effect a saving in the high-voltage transformers for industrial alternating current and the associated high-voltage condensers of relatively high capacity, which are ~~hardly available~~ ^{in short supply} nowadays, and also to attain a considerable reduction in the weight of the high-voltage apparatus supplying current to counting tubes, the arrangement shown in the circuit diagram was chosen.

The direct current supplied to the recording amplifier by the ~~commercial network equipment~~ ^{unit} [power supply] which is needed in any case is transformed into high-frequency alternating current in the tube V_1 . After being stepped up in the resonance transformer $L_1 C_1 L_2 C_2$ it is rectified in tube V_2 . Since the dimensions of the filter unit $C_3 C_4 R_1$ are to be chosen only for the high-frequency alternating voltages superimposed on the direct current, indirectly heated tubes must be used if the tubes are heated with low-frequency alternating current. The internal resistance of the apparatus described above is low enough to operate one of the usual chains of glow-discharge regulators. If the insertion of a regulator is relinquished, a smooth and continuous voltage regulation may be obtained by detuning the critically coupled resonance transformer. The tubes RL 12 P35 $\cdot V_1$ and LG 3 $\cdot V_2$ are used by preference. With equipment used in practice a maximum of about 1,500 volts may be attained with the use of a chain of regulators. Under these circumstances the input amounted to 490 volts $\times$ 0.025 amperes. If the regulator chain is omitted the house battery may be called on to supply the apparatus, in view of the higher resulting

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output voltage.

Ordinary air condensers having a capacity of a few hundred centimeters may be used as buffer and filter condensers. The capacitance C_2 consists exclusively of the circuit and electrode capacity. ^{Qucc}

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